

APPENDIX A

Documents Report

Report on documents related to the development of the "Potable Water and Wastewater Master Plan for Tijuana and Playas de Rosarito"				
Number	Document Title	Author	Location	General Description
General Information (two or more systems)				
1	Atlas Municipal de Riesgos (Sistema Municipal de Protección Civil, H. Ayuntamiento de Tijuana).	Ayuntamiento Constitucional de Tijuana B.C. y Sistema Municipal de Protección Civil (July 2000).	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	This document constitutes a tool for the present and futures risk evaluation of the city of Tijuana and it allows planning for the worst possible scenario.
2	Plano de Tijuana (Playas de Rosarito) Escala 1:30,000	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Location of the reservoirs, Tijuana river, and colonies.
3	Plano con Límites de Colonias y de Lotificación (Copia a Colores)	CESPT.	Sub-Dirección de Construcción, Departamento de Proyecto, CESPT.	Boundaries and names of the colonies in Tijuana (original).
4	Plan Maestro para la Consolidación y Desarrollo Institucional Para el Organismo Operador de la Localidad de Rosarito, Municipio de Playas de Rosarito, Baja California (Informe Final).	CNA, (December 1995).	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Assessment of the current potable water situation in Tijuana and proposal of options to provide alternative water supplies to the study area.
5	Catastro de los Sistemas de Agua Potable y Alcantarillado Sanitario e Instalaciones y Equipos.	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Inventory of the main components of the potable water and wastewater systems. List of facilities and equipment.
6	Levantamiento de las Redes Hidráulicas de la Zona Cuatro de la Ciudad de Tijuana, B.C.	Grupo Agua de México; BDAN; April 2001.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Information regarding the main sewer pipes (trunk lines) and its influence areas in Tijuana.
7	Levantamiento de las Redes de Agua Potable y Alcantarillado Ciudad de Tijuana, B.C. Y Preparación de la Información para su Integración en un Sistema de Información Geográfica.	ITCSA; CNA; December 1999.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	They contain a summary, introduction, field work, data bases and graphical elements, conclusions and recommendations.
8	Levantamiento de las Redes de Agua Potable y Alcantarillado de las Zonas Uno y Dos de las Ciudades de Tijuana y Playas de Rosarito, B.C. Y Preparación de la Información para su Integración en un Sistema de Información Geográfica.	INGENIERIA Y PROYECTOS TAVSA, S.A. C.V.; CESPT; April 2001.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Introduction, general information, description of the urban hydraulic system, activities to update all that information in GIS form, study limitations, and conclusion.
9	CD con Información de Agua Potable y Alcantarillado en Autocad 2000 Y Bases de Datos en Access.	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Location of the transmission mains and of the trunk lines.
10	CD con Manuales de Procedimientos (Información de November 2001).	CESPT.	Sub-Dirección de Planeación, Departamento de Organización y Métodos, CESPT.	It contains all the sizing criteria used for the design of the potable water and wastewater systems.
11	Manual de Procedimientos de Control Operacional (Agua Potable, Alcantarillado).	CESPT.	Sub-Dirección de Planeación, Departamento de Organización y Métodos, CESPT.	Inventory information of the potable and wastewater systems (aqueducts, laterals, special studies, potable water facilities, video recording for the inspection of the main trunk sewer and laterals, potable water network, facilities, equipment, structural information, detection with instrumentation of not visible leaks, macro-metering)
12	CD con Información de Catastro de redes	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Information about the location of facilities and equipment during the year 2000. Digitalization of the plumbing information of the facilities, final studies for the areas (1, 2, and 4), topography of the city of Tijuana and Playas de Rosarito.

Appendix A
Documentation and References

13	Manual de Procedimientos del Departamento de Electromecánica.	CESPT.	Departamento de Electromecánica, CESPT.	It contains the procedure need to be followed for the facilities maintenance.
14	CD con Información de Alcantarillado y Agua Potable (actualizado).	CESPT.	Sub-Dirección de Construcción, Departamento de Proyecto, CESPT.	Maps of the potable water and wastewater system in AUTOCAD 2000 format.
15	Indicadores de Gestión del mes de Enero 2002 (copia) y dos Disquetes con Indicadores desde 1996 al 2002.	CESPT.	Sub-Dirección de Planeación, Departamento de Control y Distribución Central, CESPT.	It contains financial indicators, number of potable water connections depending on the type of user, water billing, unpaid bills, dilatory debtors, total of payments done by the agency, total of money received by the agency, operation of the potable water and wastewater systems, personal, and management indicator of the Rosarito municipality.
16	Plan de Contingencias del Año 97-98 (Para las Tormentas Derivadas del Fenómeno del Niño en el Invierno).	CESPT.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT	Introduction, general objectives, water policies during the emergency and when the emergency was over.
17	Copias de Acuerdos que se han Realizado con la CESPT (Fólder).	CESPT.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Copia de acuerdo de coordinación con la Secretaría del Medio Ambiente, acuerdo con la Comisión de Cooperación Ecológica Fronteriza para el proyecto de mejoras y rehabilitación del sistema de alcantarillado, ampliación del crédito para el proyecto de rehabilitación y ampliación de la planta de tratamiento de san Antonio de los buenos, convenio para la transferencia de la planta de bombeo "la misión y los pozos 4, 5, 6 y 10".
18	Información de Hidrometría de Agua Potable y Alcantarillado (Fólder).	CESPT.	Departamento de Control Operacional, Oficina de Hidrometría, CESPT.	Schematic functioning of the potable water system, it contains the location of the water tanks, repumping, and locations where there are flow meters, the provided flow meters readings are monthly averages, indicators of the success or failure of the program for leak control, map of the 32 hydrometric circuits.
19	Un Disquete con Indicadores de Mantenimientos de Redes, Cierre 2001.	CESPT.	Subdirección de Operación y Mantenimiento, Departamento de Mantenimiento de Redes, CESPT.	Reposicións de tomas diciembre 2001, fugas, tiempo de respuestas de fugas, programa de mantenimiento preventivo de alcantarillado, programa de medidores, programa de cortes, reconexiones, reporte de perdida de agua en fugas visibles 2001 ETC.
20	Tipo de Usuario Registrado en el Padrón.	CESPT.	Sub-Dirección Comercial	Tipos de usuarios registrados en el padrón de usuarios residencial, comerciales, industriales, gobierno, años 2000-2001 clasificados por distritos.
21	Usuarios Detectados como Clandestino (2000-2001).	CESPT.	Sub-Dirección Comercial	Total of clandestine users, the information is not provided by district.
22	Cobertura Total de Agua Potable y Alcantarillado.	CESPT	Sub-Dirección Comercial	Population with potable water and wastewater services.
23	Giros Clasificados Industriales.	CESPT	Sub-Dirección Comercial	Description of the industrial users during the period 2000-2001.
24	Programa Hidráulico de Gran Visión Región I, Península de Baja California.	CESPT		Presentación, programa hidráulico, resumen ejecutivo, resumen sintético, síntesis básicas, documento de divulgación, libro del agua.
25	Indicadores de Gestión del mes de febrero 2002.	CESPT	Sub-Dirección Comercial	Contiene los indicadores gerenciales, número de conexiones dependiendo el uso del agua, facturación del agua, cuentas por cobrar, cartera vencida y convenios, egresos totales, ingresos totales, operación del sistema de agua potable y alcantarillado, sistema de saneamiento de la CESPT, plantilla del personal, e indicadores de gestión del municipio de playas de Rosarito.

Appendix A
Documentation and References

26	CD con Información del Plan Municipal de Desarrollo Playas de Rosarito (2000-2002).	Primer Ayuntamiento de Playas de Rosarito	COLEF	Urban development program for Playas de Rosarito.
27	Programa Regional de Desarrollo Urbano, Turístico y Ecológico del Corredor Costero Tijuana-Rosarito-Ensenada. (Versión Abreviada y Completa).	Secretaría de Asentamientos Humanos y Obras Públicas, del gobierno del Estado.	COLEF	Background, Diagnostics, (Integrated Forecast), Model of land use zoning, development actions, tools (Administrative Technical Committee of COCOTREN, planning and regulations, legal mechanisms, financial mechanisms, table of figures, table of context, appendices).
28	CD con Información de Cuencas Hidrológicas del 2001	CESPT.	Sub-Dirección Construcción Departamento de Proyectos	Information regarding the hydrological watersheds, coverage, municipal and district boundaries.
29	Estrategia de Gran Visión para Abastecimiento y Manejo de Agua en las Ciudades y Cuenca de la Frontera Norte (Dos Tomos de 1999-2025).	Sistema Hidráulicos y Ambientales S.A. de C.V.	Sub-Dirección de Planeación, CESPT.	Study done by SIHASA for the water supply and better management of water in cities and watersheds.
30	CD Base de Datos Sobre Consumos.	CESPT.	Sub-Dirección de Planeación, CESPT.	Water consumption by land use.
31	Estudios y proyectos de Infraestructura Hidroagrícola	Gerencia de Estudios y Proyectos de Infraestructura Hidroagrícola	Departamento de Estudios de Administración Pública, COLEF	
32	Programa de Presupuesto 2001 (antecedentes)	Comisión Nacional del Agua	Departamento de Estudios de Administración Pública, COLEF	Invesment program and budget for 2001.
33	Aspectos relevantes de la política de agua en México, en el marco del desarrollo sustentable	Gustavo Ortiz Rendón, documento presentado en la Conferencia Internacional "Agua y desarrollo sostenible"	Departamento de Estudios de Administración Pública, COLEF.	
34	Ley de Desarrollo Urbano de Baja California		Departamento de Estudios de Administración Pública, COLEF	
35	Ley de Urbanización del Estados de Baja California		Departamento de Estudios de Administración Pública, COLEF	
36	Reglamento de la Comisión Estatal de Servicios Públicos de Baja California		Departamento de Estudios de Administración Pública, COLEF	
37	Reglamento de la Ley de la Comisión Estatal de Servicios Públicos del Estado de Baja California		Departamento de Estudios de Administración Pública, COLEF	
38	Reglamento de la Ley de Obras		Departamento de Estudios de Administración Pública, COLEF	
39	Reglamento Interior de la Comisión Coordinadora de Desarrollo Urbano de Baja California		Departamento de Estudios de Administración Pública, COLEF	
40	Reglamento Interno del Comité de Planeación para el Desarrollo de Baja California		Departamento de Estudios de Administración Pública, COLEF	
41	Compendio Básico del Agua en México	Subdirección General de Programación. Gerencia de Planeación Hídrica	Departamento de Estudios de Administración Pública, COLEF	Basic information about water use and conservation in México.
42	Programa de uso pleno de la infraestructura hidroagrícola	Comision Nacional del Agua	Departamento de Estudios de Administración Pública, COLEF	Operating rules for agricultural, potable water, and sanitation infrastructure under C.N.A. responsibility
43	Ley de Aguas Nacionales	CNA	Departamento de Estudios de Administración Pública, COLEF	Contains all articles for the regulation of use and extraction of national waters, as well as its distribution and control
44	Reglamento de la Ley de Aguas Nacionales	CNA	Departamento de Estudios de Administración Pública, COLEF	Articles for the regulation of the National water Law
45	Usos del Agua	CNA	Departamento de Estudios de Administración Pública, COLEF	Makes reference to titles 1 and 6 of the National Water Law
46	Programa Nacional Hídrico 2011-2006	Comisión Nacional del Agua	Departamento de Estudios de Administración Pública, COLEF	This document os the planning base for the executive branch of the federal government with a horizon of 6 years and presents principles, objectives and

CDM

Appendix A
Documentation and References

				strategies for the actions of the following years
47	Estrategias del sector Hidráulico	Comisión Nacional del Agua	Departamento de Estudios de Administración Pública	Presents the context for water resources and infrastructure, efficient administration, and modernization
48	Situación del Agua en México	Comisión Nacional del Agua	Departamento de Estudios de Administración Pública	The progress made by Mexico regarding complying with agend 21 regarding water are presented.
49	Inventario Nacional de Plantas Potabilizadoras y de tratamiento de aguas residuales	Comisión Nacional del Agua	Departamento de Estudios de Administración Pública	Shows the inventory of WTP and WWTP in the Mexican Republic.
50	Plan Estatal Hidráulico 1994-2015	Gobierno del estado de Baja California	Departamento de Estudios de Administración Pública	Official document that establishes the future water needs in the urban areas and the actions that the government will have to take to guarantee the water demands.
51	Programa de desarrollo urbano del centro de población de Playas de Rosarito (Programa Regulador Urbano)	Primer Ayuntamiento de Playas de Rosarito, December 2000	Departamento de Estudios de Administración Pública, COLEF	Establishes the general guidelines and strategies for urban development for the municipality of Playas de Rosarito.
52	Plan Estatal de Desarrollo Urbano	Secretaría de Asentamientos Humanos y Obras Públicas	Departamento de Estudios de Administración Pública, COLEF	Establishes the general guidelines and strategies for urban development in the State.
53	Plan Estatal de Desarrollo 2002-2007	Gobierno del Estado de Baja California	Departamento de Estudios de Administración Pública, COLEF	Official document that contemplates the activities that will take place during the present administration for the Baja California State.
54	Propuesta de Plan Municipal de Gobierno, 17º Ayuntamiento (2001-2004)	17º Ayuntamiento de Tijuana	Departamento de Estudios de Administración Pública, COLEF	Proposal presented by the Municipal Government Plan for the Tijuana municipality.

Potable Water

1	Manual de Estaciones Reductoras de Presión	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Diagnostics of five districts; installation code, conditions, location, discharge, year, elevation, plan, parts, etc.
2	Plano con Límite de Distritos de Agua Potable y Colonia (Copia a Colores) esc: 1: 50,000	CESPT.	Departamento de Construcción, Oficina de Proyecto, CESPT.	Limits of the districts, reservoirs, Tijuana River
3	Diagnóstico de 95 Tanques de Regulación de Agua Potable (2 Fólder)	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Background, list of tanks, characteristics, operating conditions, conclusions and recommendations
4	Diagnóstico de 56 Cajas Rompedoras de Presión en Agua Potable (1 Fólder)	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	List of pressure breaking structures, characteristics, operating condition, conclusions and recommendations
5	Plano de Red Primaria de Agua Potable y Áreas de Influencia de Tanques de regulación (copia bond).	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Background, conclusions and recommendations, appendices, internal and external inspection
6	CD con dibujo de Zonas Diagnosticadas de Agua Potable en AUTOCAD 2000 y Excel.	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	CD with information on the area of influence of tanks, pressure breaking structures, analysis of tanks, leaks by district, repaired leaks
7	Diagnósticos de 10 Acueductos y Líneas de Conducción (copias, 1 Fólder).		Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	List of aqueducts, diagnostics, operating condition and maps; diagnostics of the water distribution system, conditions, conclusions and recommendations

CDM

Appendix A
Documentation and References

8	Diagnósticos de Redes de Agua Potable en 34 Colonia (1 Fólder).	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	List of colonia, diagnostics, operating condition and maps; diagnostics of the water distribution system, conditions, conclusions and recommendations.
9	Plano de Áreas de Influencias de Rebombeos de Agua Potable Escala 1: 20,000.	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Location of booster stations and areas of influence
10	Plano de Funcionamiento del Sistema de Agua Potable de Tijuana (copia).	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Flow diagram of the operation of the water system
11	CD con Información de Acueductos de Agua Potable.	CESPT.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Information on the regional feasibility study for the conveyance of Colorado River water (October 2001)
12	Diagnóstico Actual y Propuesta de Explotación y Tratamiento de los Pozos de Agua Potable de la Ciudad de Tijuana (Tomo II).	CNA (Diciembre de 1997).	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Location, depth, historical depth-to-water (87-97) for wells
13	Manual de Perforaciones de Pozos.	Consultores en Estudios, Proyectos y Construcción, S.A. de C.V.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Design manual for water and sanitation systems
14	Información para la Rehabilitación de Pozos	CESPT.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Maintenance schedules, graphs, proposed wells, extraction records
15	Listado de Interconexión de Pozos.	CESPT.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Lists of maps, well interconnection maps, structural tank, electric substation, electric installation, electric diagram
16	Definición de Nuevas Fuentes de Abastecimiento (2 tomos).	Proyectos, Estudios y Consultaría, S.A. de C.V.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Diagnostics of water system, alternatives, planning through the year 2015, proposed solution
17	Rehabilitación e Interconexión de pozos la Misión-Tijuana.	CESPT (Diciembre de 1999).	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Rehabilitation plans for wells; equipment and protection for electrical substation; Mision—Tijuana aqueduct and conveyance lines
18	Situación Actual del Sistema de Abastecimiento de Agua Potable para la Ciudad de Tijuana B.C.	CESPT.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Analysis of the water supply system
19	Plan para el Mejoramiento de los Servicios de Agua Potable, Alcantarillado y Saneamiento.	CESPT.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Analysis of current conditions and proposed options for water supply
20	Puntos de Entrega y Caudales para los Municipios de Tijuana, Playas de Rosarito, Ensenada y Tecate.	CEA (September 2000).	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Existing water supply system, urban development, population growth, water demands, advantages and disadvantages, conclusions
21	Procedimientos de Agua Potable.	CESPT.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Procedures for SCADA, atomization, water treatment at Rodriguez and Florido plants, water sampling
22	Manual de Procedimientos para Programar Trabajos (Mantenimiento de Redes).	CESPT.	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Procedures for the installation of meters, and leak repairs
23	Seis Disquete con Información del Reporte Mensual del Laboratorio de agua potable .	CESPT.	Planta de Tratamiento, Oficina de Tratamiento del Florido.	Information on water treatment by month from January 2001 to January 2002
24	Información sobre los tanques de almacenamiento (Fólders).	CESPT.	Planta de Tratamiento, Oficina de Tratamiento del Florido.	Information on water tanks by hour
25	Un Disquete con Información Sobre Agua Potable	CESPT.	Subdirección de Operación y Mantenimiento, Departamento de agua potable, CESPT.	Water storage at El Carrizo reservoir (97-200) and Rodriguez reservoir (2000-2001), volume of treated water at Florido (98-2001) and Rodriguez (98-2001), water production at Rodriguez plant, La Misión, Rosarito, and Tijuana river wells (99-2001), rain and temperature
26	Libro de Catastro de Instalaciones y Equipos 2001	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Code, objectives, inventory, equipment, and summary
27	Memoria de Gestión (1995-2001)	COPLADE, Gobierno del Estado de Baja California.	Sub-Dirección de Planeación, Departamento de Evaluación y Control, CESPT.	Background, technological innovations, operating efficiency, administrative efficiency, water quality, demand and supply, coverage, IT, water culture.

Appendix A
Documentation and References

				customer service public participation, wastewater treatment, on-going work
28	Plan Estatal de Desarrollo (1996-2001) actualización 1999.	COPLADE, Gobierno del Estado de Baja California.	Sub-Dirección de Planeación, Departamento de Evaluación y Control, CESPT.	Public safety; justice; economic, regional, urban and infrastructure development; education; ecology; environmental protection; public administration
29	Plan Estatal de Desarrollo (1996-2001) evaluación final.	COPLADE, Gobierno del Estado de Baja California.	Sub-Dirección de Planeación, Departamento de Evaluación y Control, CESPT.	Tool to measure progress made during the 1996-2001 administration and its social impact, in accordance with Article 27 of the Baja California planning law
30	CD con Información de Curvas de Nivel en Mosaico de Catastro	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Information on topography, lines, and primary network
31	Plano de Acueducto Flordo "El Niño" (tres planos) de nueva creación.	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Contains profile, elevation (Km 0+000-6+841.735).
32	Tres Disquete con Información de Tanques de Agua Potable.	CESPT.	Subdirección de Operación y Mantenimiento, Departamento de Agua Potable, CESPT.	Information on monthly maintenance of tanks for 2000
33	Copias de las Bitácoras de Operación, de Equipos de Bombeo en Agua Potable y Alcantarillado.	CESPT.	Subdirección de Operación y Mantenimiento Departamento de Agua Potable, CESPT.	Monthly information on tank levels
34	Copia de Plano con Perfil del Acueducto Carrizo – Flordo.	CESPT.	Subdirección de Operación y Mantenimiento Departamento de Agua Potable, CESPT.	Profile, length, elevations
35	Bitácoras de Telemetría y Niveles de Tanques una parte en electrónico y copias.	CESPT.	Subdirección de Operación y Mantenimiento Departamento de Agua Potable, CESPT.	Information on discharge and levels of tanks and aqueducts (monthly); information about monitoring of chlorine residual in tanks
36	CD con archivos de los Acueductos Diagnóstico y Tanques.	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Information on physical conditions of aqueducts and list of tanks out of operation
37	Plan de Desarrollo Institucional (1996-2001) Agua Potable y Saneamiento de las Ciudades de Tijuana y Rosarito, Baja California.	CESPT.	Subdirección de Operación y Mantenimiento, Departamento de Mantenimiento de Redes, CESPT.	Analysis of the water and, sewer, and sanitation systems, policies and objectives, goals, actions, proposed improvements, rate structure, management
38	Distrito Hidrométrico de Playas de Rosarito	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Implementation of districts, definition of area of influence, metering, user census, water losses, water balance, conclusions and recommendations
39	Informe "Distrito Hidrométrico de Playas de Tijuana"	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Implementation of districts, definition of area of influence, metering, user census, water losses, water balance, conclusions and recommendations
40	Resumen Ejecutivo "Distrito Hidrométrico Piloto 1 Playas de Tijuana."	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Characteristics of pilot district, activities performed, water losses, conclusions and recommendations.
41	Volúmenes Cobrados por Mes y Tipo de Servicio año de 1996 al 2001.	CESPT	Subdirección Comercial	Information on billing for 2000-2001
42	Códigos por Distritos.	CESPT	Departamento de Micro medición.	Codes
43	Un Disquete con Histogramas de Consumo (2000-2001).	CESPT	Departamento de Micro medición.	Information for period 2000-2001
44	Total de Cuentas por Distritos (2000-2001) de Agua Potable.	CESPT.	Subdirección Comercial	Accounts per district by user type (2000-2001).
45	Número de Cuentas Registradas como Garza.		Subdirección Comercial	Accounts per district
46	Volúmenes Cobrados por Mes y Tipo de Servicio.	CESPT	Subdirección Comercial	Billing information for 2000-2001
47	Códigos por Distritos.	CESPT	Departamento de Micro medición.	Codes

CDM

Appendix A
Documentation and References

48	Un Disquete con Histogramas de Consumo (2000-2001).	CESPT	Departamento de Micro medición.	Information for 2000-200
49	Resumen General del Consumo Promedio por Cuenta.	CESPT	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT.	Average consumption by user type
50	Programa Financiero, Optimización de Nuevas Fuentes de Abastecimiento de Agua Potable.	CESPT	Coordinación Técnica Comercial, Departamento de Micro medición.	Financial report to be used as base for a strategic water supply program
51	Propuesta Bajagua.	CEA (Febrero del 2000).	Coordinación Técnica Comercial, Departamento de Micro medición.	Wastewater treatment and reclamation project. An alternative to treat primary effluent to secondary effluent levels.
52	Ánalisis Preliminar para el Abastecimiento de Agua a Tijuana Tecate, Rosalito, Mediante Ampliación del Acueducto Río Colorado Tijuana.	CESPT (Diciembre 1999).	Coordinación Técnica Comercial, Departamento de Micro medición.	Feasibility study with the purpose of analyzing the expansion of the RCT aqueduct, required infrastructure and cost estimates.
53	CD con Informe y Resumen Ejecutivo de Distrito Hidrométrico de Playas.	CESPT	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	Introduction, general objective, specific objective, general characteristics of the pilot district, activities, water leaks, conclusion and recommendations.
54	CD y Fólder con Información de Fugas no Visibles de Hidrométrica.	CESPT	Departamento de Control Operacional, Oficina de Estudios Técnicos (Hidrométrica), CESPT.	2001 readings of bulk meters, summary of leak reduction program up to August 2000 , budget for flow metering in the distribution system. Volumes in Districts up to 2001, leak coefficients, coverage, metering.
55	Presupuestos 2001	CESPT	Sub-Dirección de Planeación, CESPT.	Water and wastewater collection coverage maps, projected services, well production, budgeted expenditures, unpaid bills, etc.
56	Propuesta para el Abastecimiento de Agua plazo 2000-2010	CESPT	Sub-Dirección de Planeación, CESPT.	Three proposals to increase the use of Colorado River water using a Binational aqueduct, modular desalination plants and expansion of existing aqueduct to 5.2 m ³ /s
57	Definición de Políticas de Servicio de Agua Potable, a Corto, Mediano, y Largo Plazo (2004, 2009, 2038).	CESPT	Sub-Dirección de Planeación, CESPT.	Demand analysis for existing coverage areas, including new developments, colonias included in the Japanese Credit, and expansion of the coverage.
58	Total Cuentas con Cuota Fija por Distrito 2001	CESPT	Sub-Dirección Comercial	Total number of registered water accounts by district.
59	Diámetros de Conexiones de Cuentas en Tomas Activas por Distritos de Usuarios del 2001	CESPT	Sub-Dirección Comercial	Number of connections by pipe diameter, by district.
60	Localización de Consumidores Mayores a 200 m ³ /mes (Planos).	CESPT	Sub-Dirección Comercial	Location of the main water consumers of each district.
61	CD con información de Proyectos (1999).	CESPT	Sub-Dirección de Construcción Departamento de Proyectos	Emergency connection to San Diego (Planta General, Plano Estructural) Julio de 1999, Proyecto Ejecutivo de la línea de interconexión de la planta de bombeo Ing. Juan Ojeda a crucero 5 y 10 km (0+000-2+090.80), proyecto del cruzamiento de FF CC Tijuana-Tecate km 1+448.33-7+888.46 FF CC, cruce con el río Tijuana, cruce con el arroyo Alamar (Agosto de 1999).
62	Fólder con Información de las Quejas de los Usuarios de la Calidad de Agua (2000-2001), Análisis Físicos Químicos Mensuales de las Fuentes de Abastecimiento de (Enero, Febrero, Marzo, y Abril, del 2000).	CESPT.	Laboratorio de la Planta de Potabilización de la Presa Abelardo L. Rodríguez.	Información de las principales quejas de los usuarios de los problemas de la calidad del agua en diferentes colonias, e información de tres meses de análisis fisicoquímicos.
63	Información del Crédito Japonés de agua potable.	CESPT.	Sub-Dirección Construcción Departamento de Proyectos	Información de las colonias incluidas en el Crédito Japonés, diámetro de tuberías, población beneficiada, longitud de la red.

Appendix A
Documentation and References

64	CD con Información General del Crédito Japonés de Agua Potable, Paquete de Construcción Número 5.	CESPT.	Sub-Dirección de Construcción Departamento de Proyectos	Information of all the facilities to be built with the funds from the Japanese Credit.
65	Folders con Información de Rebombeos.	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Location of pumping, singular pieces, and equipment capacities.
66	Simplificación Administrativa CESPT	Comisión Estatal de Servicios Públicos de Tijuana, September 1993	Departamento de Estudios de Administración Pública, COLEF	Description of institutional strengthening accomplishments in relation to customer service.
67	La Conferencia COBRO Anual de 1997. Conferencia: Retos y oportunidades binacionales del Agua	Comité Regional de Oportunidades Fronterizas (COBRO) de la Asociación de Gobiernos de San Diego (SANDAG)	Departamento de Estudios de Administración Pública, COLEF	Report on water demand issues in San Diego y Tijuana. Summary of meetings.
68	Manual de Procedimientos de la subdirección de planeación	Comisión Estatal de Servicios Públicos de Tijuana, May 1995	Departamento de Estudios de Administración Pública, COLEF	Document that describes the procedures followed by the planning sub-direction.
69	Ley del Plan Regulador de la ciudad de Tijuana		Departamento de Estudios de Administración Pública, COLEF	
70	Reglamento para la excavación		Departamento de Estudios de Administración Pública, COLEF	
71	Plan básico de gobierno, Baja California 2001-2001. Propuesta preliminar	Partido Acción Nacional	Departamento de Estudios de Administración Pública, COLEF	Proposal presented by Eugenio Elorduy Walter, when he was running for Governor of the Baja California State.
72	Situación del subsector de Agua Potable, Alcantarillado y Saneamiento, 1999 y 2000	Comisión Nacional del Agua, 1999-2000	Departamento de Estudios de Administración Pública, COLEF	Accomplishments by the state, municipal and federal government, in relation to potable water and sanitation services in Mexico.
73	Memoria 1997 y 1998	Comisión Estatal de Servicios Públicos de Tijuana, 1997 y 1998	Departamento de Estudios de Administración Pública, COLEF	This document summarizes the services that are provided by CESPT in 1998, and summary of main objectives and activities of agency.
74	Indicadores de Gestión 1991-2000 y 2001	Comisión Nacional del Agua	Departamento de Estudios de Administración Pública, COLEF	Statistical information: Tables, water billing, unpaid bills, agreements, accounting, water and wastewater collection system operation, staff
75	Organigrama general de la CESPT	Comisión Estatal de Servicios Públicos de Tijuana	Departamento de Estudios de Administración Pública, COLEF	Organization chart of CESPT.
76	Acueducto de la Presa Abelardo L. Rodríguez, planta potabilizadora "El Florido"	CESPT	Departamento de Estudios de Administración Pública, COLEF	Brief historical background of the role of water in Tijuana, public works and general benefits.
77	Planeación Estratégica del Sistema de Agua Potable y Alcantarillado de Tijuana Horizonte 1991-2000	Subdirección de Planeación, CESPT	Departamento de Estudios de Administración Pública, COLEF	Current organization chart, planned projects to be built, tables with the different type of users.
78	Reporte final de investigación, el perfil del usuario de la Comisión Estatal de Servicios Públicos de Tijuana	CESPT	Departamento de Estudios de Administración Pública, COLEF	Summary of the quality of the services that are provided by CESPT, it also asks the users how CESPT could recover the money invested in the services that the agency provides. The information was obtained providing the general public with a survey.
79	Información financiera CESPT 1991-2000	CESPT	Departamento de Estudios de Administración Pública, COLEF	CESPT's financial information 1991-2000.
80	Programa Regional de Desarrollo Urbano del Corredor Tijuana-Rosarito	SAHOPE, Dirección de Planeación Urbana y Regional	Departamento de Estudios de Administración Pública, COLEF	Regional urban development program that includes the priority actions to take place for the benefit of the entire region.

Sanitary Sewer				
1	Plan de Saneamiento del Río Tijuana (Informe Final).	Ingevin S.A.. de C.V. (Septiembre de 1995).	Sub-Dirección de Planeación, Departamento de Planeación de la Operación, CESPT..	Watewater and wastewater reuse Plan for the city of Tijuana, which establishes a strategy to be applied in the short, medium and long term. The Plan is based on the actual conditions with a 2020 planning period.
2	Diagnóstico de la Red Alcantarillado Sanitario Atarjea AV. Univ. Otay Universidad (fólder con información).	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (alcantarillado),CESPT.	Aqueducts, assessment of the water and wastewater system, operation conditions, technical drawings.
3	Diagnóstico de Alcantarillado Sanitario Red Frac. Otay Fovissste II (fólder con información).	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (alcantarillado), CESPT.	Introduction, operation conditions, conclusions and recommendations, appendixes, internal – external inspection.
4	Diagnóstico de Alcantarillado Sanitario Subcolector Villas de Baja California (fólder con información).	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (alcantarillado), CESPT.	Introduction, operation conditions, conclusions and recommendations, appendixes, internal – external inspection.
5	Video Cassett de Inspecciones de Atarjeas y Colectores.	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Alcantarillado), CESPT.	Video recording of the interior of the transmission mains and of interior of the distribution pipes in some areas of the city of Tijuana.
6	CD con Información de Alcantarillado Sanitario	CESPT.	Departamento de Control Operacional, Oficina de Estudios Técnicos (Agua Potable), CESPT.	It contains the wastewater conveyance system, including the topography
7	Total de Cuentas por Distritos (2000-2001) de Alcantarillado.	CESPT.	Subdirección Comercial	Total number of accounts by district and by type of user (residential, commercial, industrial, and governmental) for the last two years (2000-2001).
8	CD con Información de Agua potable y Alcantarillado, Estatus de Zonas con Servicio y sin Servicio.	CESPT.	Sub-dirección de Planeación, CESPT.	Ratio between the accounts with potable water and wastewater service and the accounts with potable water service and no wastewater service. The average of water consumption for the two groups is also provided in cubic meters.
9	CD y Fólder con Información de Alcantarillado Sanitario de las Colonias incluidas en el Crédito Japonés (27 de Dic. de 2000).	CESPT.	Sub-Dirección de Construcción Departamento de Proyectos.	It contains information about the wastewater pipes and colonies that were assessed during the process of requesting the the Japanese Credit.
10	Coberturas históricas de agua potable y alcantarillado	Comisión Nacional del Agua	Departamento de Estudios de Administración Pública, COLEF	Tables that contain the coverage of the potable water service in Mexico (national) for the 1990-1999 period in urban and rural areas.
Wastewater Treatment				
1	Información sobre los Gastos Diarios de la Planta potabilizadora el Florido (Fólders).	CESPT.	Planta de Tratamiento, Oficina de Tratamiento del Florido.	Daily flows from El Florido to the aqueducts, in temrs of day, hour, minute, l/s, m3 per day
2	Copia de Plano de Arreglo General de la Planta Potabilizadora ESC 1:200.	Ingeniería y Consultaría Universal S.A. (I.C.U.S.A.) Diciembre de 1990.	Planta de Tratamiento, Oficina de Tratamiento del Florido.	Contains the rehabilitation of WTP, details, dimensions, symbology, list of materials, by-pass, pulsators, etc.
3	Plano con Arreglo General de la Planta Potabilizadora Presa Rodríguez (61501)	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Dimensions, symbology, notes, pipes, etc.
4	Plano con Arreglo General de la Planta Potabilizadora Presa Florido (41501)	CESPT.	Departamento de Control Operacional, Oficina de Catastro, CESPT.	Dimensions, symbology, notes, pipes, etc.
5	Seis Disquete con Información de Potabilizacion del Agua y plano con los sitios de donde se extraen las muestras.	CESPT.	Laboratorio de la Planta de Potabilizacion de la Presa L. Rodríguez.	It contains physico – chemical analysis information, and chlorine analysis results corresponding to the years (2000-2001). The Mexican standards are also included in this document.

Appendix A
Documentation and References

6	Copias de Expedientes de Monte Olivos.	CESPT.	Planta Potabilizadora el Florido Oficina	Quality of the water extracted from the wells in Tijuana.
7	Fólder con Información de muestra del cloro residual y puntos establecidos por la CNA para monitoreo, propuestos desde el año 2000.	CESPT.	Laboratorio de la Planta de Potabilización de la Presa Abelardo L. Rodríguez.	Information regarding the samples taken by the CNA to verify that CESPT is in compliance with the Chlorine residual regulations in different locations of the city of Tijuana.
8	Planeación Estratégica CESPT	CETYS Universidad	Departamento de Estudios de Administración Pública, COLEF	PED 1996-2001 and water and wastewater program for the state.

Wastewater

1	Manejo y Disposición de Lodos PITAR, 5 Tomos (Dic 2001).	CESPT.	Sub- Dirección de Saneamiento	
2	17 Disquetes con Información del Laboratorio PTAR de San Antonio de los Buenos (Punta Bandera), Rosarito, Plantas de Bombeo y Canal río Tijuana.	CESPT.	Sub- Dirección de Saneamiento	
3	CD PTSAB, Emisor de Aguas Residuales de la Ciudad de Tijuana (Mayo de 1994).	CESPT.	Sub- Dirección de Saneamiento	El Soler Rehabilitation study (wastewater outfall)
4	Preliminary Study of the Feasibility of Using a Pond.	CESPT.	Sub Dirección de Saneamiento	
5	Taller sobre Operación y Mantenimiento de Líneas de Alcantarillado Sanitario (Fólder).	CESPT.	Sub- Dirección de Saneamiento	
6	Taller Sobre Principios de Tratamiento de Agua Negra en la Planta San Antonio de los Buenos (Fólder).	CESPT.	Sub- Dirección de Saneamiento	
7	PTAR Puerto Nuevo Municipio de Rosarito Baja California (Fólder).	CESPT.	Sub- Dirección de Saneamiento	
8	Información Mensual de Tratamiento de Agua Residual Correspondiente al Mes de Mayo (Fólder).	CESPT.	Sub- Dirección de Saneamiento	Physical and chemical characteristics of treated wastewater during the month of May.
9	Programa de Infraestructura Hidráulica para el Saneamiento Ambiental y Suministro de Agua Potable en Baja California (Mexicali-Tijuana-Ensenada) del 2001.	CESPT.	Sub- Dirección de Saneamiento	Institutional strengthening program (PROFI) of CESPT.
10	CD con Información de Saneamiento.	CESPT.	Sub- Dirección de Saneamiento	Total of water produced in the years 2000, 2001 and 2002. Quality of the water, flows, historical volumes, the source of the information is the EPA, expansion of the Punta Bandera WWTP, capacity of the International WWTP.
11	CD con Información de Caudales, Calidad de Agua y Eficiencia de Funciones de las Plantas de Tratamiento de Aguas Residuales.	CESPT.	Sub- Dirección de Saneamiento	
12	Copia de Minuta entre México-EEUU.	CESPT.	Sub- Dirección de Saneamiento	
14	Lamina de Presentación con Áreas de Influencia de la PTAR con Crédito Japonés.	CESPT.	Sub- Dirección de Saneamiento	The map shows the areas that will be benefited by the WWTP funded by the Japanese credit.
15	Plano con Ubicación de PTAR en Rosarito.	CESPT.	Sub- Dirección de Saneamiento	Map showing the Rosarito WWTP location.
16	Informe Mensual del mes de Febrero de 2002 (Programa de Actividades).	CESPT.	Sub- Dirección de Saneamiento	Goals and objectives program.

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Reuse				
1	Propuestas de DOE para Recarga de Acuífero (5 de marzo del 2002).	CESPT.	Sub- Dirección de Saneamiento	

Appendix A
Documentation and References

14	Lamina de Presentación con Áreas de Influencia de la PTAR con Crédito Japonés.	CESPT.	Sub- Dirección de Saneamiento	Mapa indicando las áreas de influencia que abarca el Crédito Japonés con respecto a las plantas de tratamiento.
15	Plano con Ubicación de PTAR en Rosarito.	CESPT.	Sub- Dirección de Saneamiento	Plano de ubicación de la planta que se encuentra en Rosarito.
16	Informe Mensual del mes de Febrero de 2002 (Programa de Actividades).	CESPT.	Sub- Dirección de Saneamiento	Programas de actividades y metas.

Reuso

1	Propuestas de DOE para Recarga de Acuífero (5 de marzo del 2002).	CESPT.	Sub- Dirección de Saneamiento	

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APPENDIX B

Methodology of Economic Factors and Activity

Appendix B

Methodology of Economic Factors and Activity

Socioeconomic Development along Mexico's Northern Border

1.- *Deprivation Index Averages for Basic Public Services* is the average percentage of the population lacking access to essential public services. It is calculated as the average of the indices of deprivation for each basic service. Because of their importance, deprivation indices were calculated for health care, education, electricity, potable water, and sewer and sanitation services. Thus, the average deprivation index is the mean of these.

The formula to calculate this is:

$$\text{DIA} = \text{DIHC} + \text{DIEd} + \text{DIE} + \text{DIW} + \text{DIS}/5$$

Where:

- DIHC: health-care deprivation index
- DIEd: education deprivation index
- DIE: electricity deprivation index
- DIW: potable water deprivation index
- DIS: sewer and sanitation deprivation index

1.A.- *Health-Care Deprivation Index*: Refers to the percentage of the population that has no access to full health services. The health-care deprivation index is calculated as the complement of the average percentage of the population that can be treated by medical personnel or nurses and that have access to a hospital bed. In each case, international standards were used, which establish that there should be one doctor for every 1,117 inhabitants, one nurse for every 559, and one hospital bed for every 532. To determine the number of people who can be treated, those norms are multiplied by the number of doctors, nurses, and beds, and then, for each, its proportion of the total population is calculated. For the population treated by medical personnel, the formula would be:

$$PA_m = \frac{CD_e \times 1117 \times 100}{Pop_t}$$

Where:

- CD_e: number of doctors
- Pop_t: total population

Note: Multiplying the number of medical personnel by 1,117 determines the number of people who, according to international standards, should have access to medical personnel. A similar procedure is followed for nurses (PA_e) and hospital beds (PA_c), using those respective norms. The data on the number of doctors at the municipal

level were taken from the Secretary of Health (Secretaría de Salud), and United Nations Children's Fund (Fondo de Naciones Unidas para la Infancia, UNCEF), Health Information Database, Municipal Statistics (Bases de Información para la Salud, Cifras Municipales), 1994.

Finally, the health-care deprivation index is calculated as the average of the shortage for each health-care service, according to the formula:

$$IPS = \frac{PA_m + PA_e + PA_c}{3}$$

Where:

PA_m : proportion of people who can be treated by medical personnel

PA_e : proportion of people who can be treated by nurses

PA_c : proportion of people who have access to a hospital bed

1.B.- *Education Deprivation Index* is the percentage of the population between 5 and 14 years who do not attend school. This is the ratio the population between 5 and 14 years who do not attend school and the total from that age group who indicated that they attended school. The data for the calculation come from the XI General Census of Population and Housing 1990, Table No. 14, Population 5 Years or Older by Municipality, Enrollment, and Age by Educational Attainment and Primary School Grades Completed (XI Censo General de Población y Vivienda de 1990, Tabla No. 14 población de 5 años y más por municipio, condición de asistencia y edad según nivel de instrucción y grados aprobados en primaria).

This was calculated according to the formula:

$$IPE_d = 100 - \frac{Pop^{5-14}NA_s}{Pop^{5-14}T - Pop^{5-14}NE} \times 100$$

Where:

$Pop^{5-14}NA_s$: population between 5 and 14 years who do not attend school

$Pop^{5-14}T$: total population between 5 and 14 years

$Pop^{5-14}NE$: population between 5 and 14 years who indicated that they attended school

1.C.- *Electricity Deprivation Index* is the percentage of occupants of single-family homes who do not have electricity service. This is the ratio of the number of occupants of single-family homes who do not have electricity service and the total number of occupants of single-family homes who have service. The calculation is based on data from the XI General Census of Population and Housing 1990, Table No. 47 Occupants of Single-Family Homes by Municipality, Availability of Electricity, and Availability of Running Water by Availability and Type of Sewer and Sanitation (XI Censo General de Población

y Vivienda de 1990, Tabla No. 47 Ocupantes de viviendas particulares por municipio, disponibilidad de energía eléctrica y disponibilidad de agua entubada según disponibilidad y tipo de alcantarillado y saneamiento).

It was calculated according to the formula:

$$IPEI = \frac{O_{vp}NEI}{O_{vp}T - O_{vp}NE} \times 100$$

Where:

- $O_{vp}NEI$: occupants of single-family homes who do not have electrical service.
- $O_{vp}T$: total number of occupants of single-family homes
- $O_{vp}NE$: occupants of single-family homes who did not specify that they have access to electricity

1.D.- *Potable Water Deprivation Index* is similar to the previous index but refers to the availability of potable water within the home

1.E.- *Sewer and Sanitation Deprivation Index* is similar to the previous index but refers to the availability of sewer and sanitation services.

2.- *Poverty Index* is a measure that combines the breadth and the depth of poverty.¹ Methodologically, it is associated with the poverty indices proposed by Greer, Thorbecke, and Foster. The poverty index is calculated as the deviation ratio of income for individuals under the poverty line,² squared and weighted by the size of the population.

The XI General Census of Population and Housing 1990, Table No. 36 Population Employed by Municipality, Gender, and Employment Sector by Income Groups (XI Censo General de Población y Vivienda de 1990, Tabla No. 36 población ocupada por municipio, sexo y sector de actividad según grupos de ingreso), published by INEGI, provided the data. In this table, the income data are expressed in ranges of minimum monthly salaries in force at the time of the census (March 12, 1990). For our purposes, the poverty line was equivalent to one minimum daily salary, as of that date, or 10,080 pesos. Additionally, the average income of the group was considered to be the mid-point of the income range.

The poverty index is shown mathematically in the formula:

¹ Defined as an income level below which people are unable to satisfy their basic daily consumption requirements.

² Given the availability of information, this refers to the working population. Unfortunately, this is the only level of analysis that the census information permits. The dependency relation of the working population was taken as an approximation for families' income.

$$FGT = 100 \times \frac{1^q}{N^{i=1}}$$

Where:

N = Total population

Z = Poverty line equivalent to 10,080 pesos

Y_i = Income of the i^{th} person

q = Total number of people below the poverty line

Note: This calculation considers the poverty line to be equal to 1 and to 2 minimum salaries, which allows us to make a broader evaluation that also includes people who are just above and very close to the 1-minimum-salary poverty line.

3. - *Proportion of People below the Poverty Line*: As its name indicates, this refers to the proportion of people with income below the poverty line. It is calculated as the percentage of the population considered poor out of the total population. The sources for the data and the explanation of their use are the same as those mentioned for the previous index.

This is mathematically calculated according to the formula:

$$P_p = \frac{q}{N} \times 100$$

Where:

q = number of poor persons

N = Total population.

Note: The calculation considers the poverty line to be equal to 1 to 2 minimum salaries, which allows us to make a broader evaluation that also includes people who are just above and very close to the 1-minimum-salary poverty line.

4. – *Poverty Gap* is the percentage of income needed for the poor population to reach the poverty line. It is calculated by adding the ratio of the difference between the income of the poor population and the poverty line, and dividing this by the total population. This gives the proportion of the incomes in relation to the poverty line and the total population that must be transferred so that the poor population can reach the poverty line.

This index was based on the same data sources and explanation of their use as the previous two indices, using the formula:

$$BPI = 100 \times \frac{\sum_{i=1}^q (Z - Y_i)}{\sum_{i=1}^N Z}$$

Where:

N = total population.

Z = Poverty line is equivalent to 10,080 pesos.

Y_i = Income of i^{th} person.

q = Total number of people below the poverty line.

Note: The calculation considers the poverty line to be equal to 1 and to 2 minimum salaries, which allows us to make a broader evaluation that also includes people who are just above and very close to the 1-minimum-salary poverty line

5.- *Gini Coefficient* expresses the degree of equity that exists between two distributions. In this case, it will be used to calculate the degree of inequity in the income distribution of the population. The Gini Coefficient is calculated as the ratio of the area between the Lorenz Curve and the line indicating perfect equity and of the area formed by the that line and the axes of the coordinates. The method followed is explained below.

The Lorenz Curve is constructed with cumulative proportions of population and income. Perfect equity is represented by a 45 degree line, since perfect equity consists of each population group receiving an income proportional to their size. In practical terms, this means that 10 percent of the population receives 10 percent of the income, 20 percent of the population receives 20 percent of the income, and so on up to 100 percent of the population and income.

The calculation determines the size of the area between the Lorenz Curve and perfect equity, given that the area of the triangle is known. For this, it is necessary to calculate the proportions of the population and of the income in each group. The source of data and the explanation for their use are the same as for the three previous indicators. The formula is:

$$G = \frac{1}{n} \sum_{i=1}^n P_i \times (Q_{i+1} - Q_{i-1}) \quad \text{Suppositions: } Q_0 = 0 \text{ and } Q_{n+1} = 1$$

Where:

P_i = Cumulative proportion of population up to group i .

Q_{i+1} = Cumulative proportion of income up to group $i+1$.

Q_{i-1} = Cumulative proportion of income up to group $i-1$.

6.- *Human Development Index* is a measure that indicates the relative position of a state within a set to which it is compared. Three essential life dimensions are measured in combination: health, knowledge, and income. Health will be measured as the coverage of the health system in different states; knowledge as a combination of the rate of adult

literacy and average educational level; and income will be measured using the Atkinson income utility formula.

The measurement of health-care coverage was made using the *health deprivation index*, defined in Section 1.A above.

The measurement of knowledge was made through a combination of the *literacy index of the population 25 years or older* and the *average educational level*, as they are defined in this work's, **Development and Education along the Northern Border** methodological appendix. The education indicator we used here is a weighted average of the previous indicators, where literacy has a weight two times greater than the average educational level. This is mathematically expressed by the formula:

$$\text{Con} = 2 \text{ Literacy Index} + 1 \text{ Average Years of School}$$

$$3 \qquad \qquad \qquad 3$$

Income was estimated using the marginal income utility when it is greater than the poverty line (1 minimum salary). According to the Atkinson formula, the marginal income utility is calculated as:

$$W(y) = \frac{1}{1 - E} y^{(1-E)}$$

Where:

y = Income.

E = Income Elasticity, a parameter that measures decreased buying power.

The size of decreasing returns is measured according to the relationship between average per-capita income and the poverty line. Giving a value of zero to income levels below the poverty line, that is to say, income below the poverty line has a total contribution and no marginal contribution; for income levels above the poverty line, it is calculated as the cumulative value of the individual income contribution divided by multiples of the poverty line. In general, the size of decreasing returns can be determined according to the formula:

$$E = \frac{a}{(a+1)} \qquad \text{for an income level (y) of: } ay^* < y < (a+1)y^*$$

Where:

y^* = Poverty Line.

a = Number that defines the multiples of the poverty line.

As an example, we hypothesize a state where annual income in 1990 was 8,016,946.5 pesos, while the annual income that corresponds to the poverty line was 3,679,200 pesos. Therefore, the annual income in the state was between two and three times that of the poverty line, and income utility, in this case, would be equal to:

$$\begin{aligned}
 W(y) &= 1 \left(3679200 \right)^{1-(0/1)} + 1 \left(7358400 - 3679200 \right)^{1-(1/2)} + 1 \left(8016946.5 - 7358400 \right)^{1-(2/3)} \\
 &\quad \begin{matrix} 1-0 \\ 1 \\ 1 \end{matrix} \quad \begin{matrix} 1-1 \\ 2 \\ 2 \end{matrix} \quad \begin{matrix} 1-2 \\ 3 \\ 3 \end{matrix} \\
 W(y) &= 3679200 + 2 \left(3679200 \right)^{(1/2)} + 3 \left(658546.5 \right)^{(1/3)} \\
 W(y) &= 3679200 + 3836.2 + 261.0 \\
 W(y) &= 3683297.3
 \end{aligned}$$

Having calculated each of these indicators for all states, the deprivation in each is calculated, defined as the distance separating the analyzed state from the state that reached the highest level, as a ratio of the breadth of the range for that indicator. The following formula expresses this mathematically:

$$Ip_{ij} = \frac{Max_j - X_{ij}}{Max_j - Min_j}$$

Where:

- Ip_{ij} = Deprivation index of state i according to indicator j .
- Max_j = Maximum value reached by a state on indicator j .
- X_{ij} = Value of indicator j on state i .
- Min_j = Minimum value reached by a state on indicator j .

After calculating the deprivation for each one of the states according to the three indicators, the average deprivation for each state is calculated. Finally the *Human Development Index* is calculated as the complement of one of the average deprivations for each one of the states, according to the formula:

$$IDH = 1 - \frac{Ip_i + Ip_e + Ip_s}{3}$$

Where:

- Ip_i = Income deprivation index.
- Ip_e = Education deprivation index.
- Ip_s = Health deprivation index.

7.- *Income-Distribution-Adjusted Human Development Index* is similar to the previous index, except this introduces a correction to the average income level that takes into consideration inequity in distribution among the population. This correction consists of multiplying the income level by the complement of one of the Gini Coefficient, to

determine the average income level that is equally distributed among all the population. Once this adjustment is made, we follow the same procedure described for the Human Development Index.

Development and Education on Mexico's Northern Border

1.- *Educational Coverage Index* is the percentage of the population between 5 and 14 years who attend school. It is the ratio of the population between 5 and 14 years who attend school and the total from that age group who specified that they attended. The data for the calculation of this index come from the XI Census of Population and Housing 1990, Table No. 14 Population 5 Years or Older by Municipality, School Attendance, and Age by Educational Attainment and Years of School Completed (XI Censo General de Población y Vivienda de 1990, Tabla No. 14 Población de 5 años y más por municipio, condición de asistencia y edad según nivel de instrucción y grados aprobados en primaria), published by the Instituto Nacional de Estadística, Geografía e Informática (INEGI).

According to the formula:

$$ICE = \frac{Pop^{5-14}As \times 100}{Pop^{5-14}T - Pop^{5-14}NE}$$

Where:

$Pop^{5-14}As$ = population between 5 and 14 years who attend school.
 $Pop^{5-14}T$ = total population between 5 and 14 years.

$Pop^{5-14}NE$ = population between 5 and 14 years who did not specify whether or not they attended school.

2.- *Literacy Index for the Population 15 Years or Older* is the percentage of the population older than 15 that is literate. The literacy index is obtained by dividing the literate population 15 or older by the total population in this age group that specified their literacy. The data for this calculation was taken from XI Census of Population and Housing 1990, Table No. 12 Population 15 or Older by Municipality and Five Year Age Groups, by Literacy and Gender (XI Censo General de Población y Vivienda de 1990, Tabla No. 12 Población de 15 años y más por municipio y grupos quinquenales de edad según condición de alfabetismo y sexo), by INEGI.

According to the formula:

$$IA^{15+} = \frac{Pop^{15+}A \times 100}{Pop^{15+}T - Pop^{15+}NE}$$

Where:

$Pop^{15+}A$ = literate population 15 or older.
 $Pop^{15+}T$ = total population 15 or older.

$\text{Pop}^{15+}\text{NE}$ = population 15 or older who did not mention their literacy.

3.- *Literacy Index of the Population 25 years and older* is similar to the previous index but using a population 25 years and older.

4.- *Average Years of Study* is the average number of years the analyzed population attended school. This is calculated as the average number of years the population older than 25 has attended school. The data were taken from the INEGI publication, XI General Census of Population and Housing 1990, Table No. 15 Population 6 Years or Older by Municipality, Gender, and Age by Educational Attainment and Primary School Grades Completed; Table No. 16 Population 12 Years and Older by Municipality, Gender, and Age by Educational Attainment and Middle School Grades Completed; Table No. 17 Population 16 Years and Older by Municipality, Gender, and Age by Educational Attainment and High School Grades Completed; Table No. 18 Population 18 Years and Older by Municipality, Gender, and Age by Educational Attainment and School Years Completed at the Superior Level (XI Censo General de Población y Vivienda de 1990, Tabla No. 15 población de 6 años y más por municipio, sexo y edad según nivel de instrucción y grados aprobados de primaria; Tabla No. 16 Población de 12 años y más por municipio, sexo y edad según nivel de instrucción y grados aprobados en el nivel medio básico; Tabla No. 17 población de 16 años y más por municipio, sexo y edad según nivel de instrucción y grados aprobados en el nivel medio superior; Tabla No. 18 población de 18 años y más por municipio, sexo y edad según nivel de instrucción y grados aprobados en el nivel superior).

It is based on the formula:

$$\bar{AE}^{25+} = \frac{\sum_{i=1}^n AE_i^{25+}}{\text{Pop}^{25+}}$$

Where:

AE_i^{25+} = Last school year completed by each one of the i people 25 years of age or older.

Pop^{25+} = Total people 25 years of age and older.

5.- *Number of Students per Teacher*: Refers to the average number of students per teacher. It is calculated by dividing the number of students by that of the teachers for each one of the educational levels based on information about the education sector published in the Statistical Annuals of the States (*Anuarios Estadísticos de los Estados*), by INEGI and the State Governments.

According to the formula:

$$CAM_i = CA_i / CM_i$$

Where:

CA = Number of students.

CM = Number of teachers.

For each one of the *i* educational levels (Primary and Secondary).

6.- *Number of Students per Classroom*: Refers to the average number of students per classroom. It is obtained by dividing the number of students by the number of classrooms for each one of the educational levels. Based on information about the education sector published by Statistical Annuals of the States (*Anuarios Estadísticos de los Estados*), by INEGI and the State Governments. The calculation was done according to the following mathematical formula:

$$CAA_i = CA_i / CAu_i$$

Where:

CA = Number of Students.

CAu = Number of Classrooms.

For each one of the *i* educational levels (Primary and Secondary).

7.- *Number of Classrooms per Teacher*: Refers to the average number of classrooms per teacher. This index is calculated by dividing the number of classrooms by the number of teachers for each educational level. It is based on information about the education sector published in the Statistical Annuals of the States (*Anuarios Estadísticos de los Estados*), by INEGI and the State Governments. A calculation was done according to the following formula:

$$CAuM_i = CAu_i / CM_i$$

Where:

CAu = number of classrooms.

CM = number of teachers.

For each one of the *i* educational levels (Primary and Secondary).

8.- *Number of Students per School*: Refers to the average number of students that attend a school. It is calculated by dividing the number of students by the number of schools for each educational level. The data for its calculation comes from the information about the education sector published in the Statistical Annuals of the State Governments (*Anuarios Estadísticos de los Estados*), by INEGI and the State Governments. The calculation was done according to the following mathematical formula:

$$CAE_i = CA_i / CE_i$$

Where:

CA = Number of Students.

CE = Number of classrooms.

For each one of the i educational levels (Primary and Secondary).

9.- *Index of No Education:* Refers to the proportion of people who have no education at the level considered. It is calculated by dividing the number of people without education at the level considered among the total population who specified their level of education, for each one of the educational levels. The educational levels and population groups considered were: on the primary level the population between 15 and 19 years of age; on the middle basic level the population between 16 and 19 years; on the middle superior level the population between 20 and 24 years; and for the superior level the population between 25 and 29 years.

The necessary information was obtained from data published in the XI General Census of Population and Housing 1990 (XI Censo General de Población y Vivienda 1990), contained in the following tables: Table No. 15 Population 6 Years or Older by Municipality, Gender, and Age by Educational Attainment and School Years Completed in Primary School (*Tabla No. 15 población de 6 años y más por municipio, sexo y edad según nivel de instrucción y grados aprobados de primaria*); Table No. 16 Population 12 Years or Older by Municipality, Gender, and Age by Educational Attainment and School Years Completed at the Middle Basic Level (*Tabla No. 16 población de 12 años y más por municipio, sexo y edad según nivel de instrucción y grados aprobados en el nivel medio básico*); Table No. 17 Population 16 Years or Older by Municipality, Gender, and Age by Educational Attainment and School Years Completed at the Middle Superior Level (*Tabla No. 17 población de 16 años y más por municipio, sexo y edad según nivel de instrucción y grados aprobados en el nivel medio superior*); Table No. 18 Population 18 Years or Older by Municipality, Gender, and Age by Educational Attainment and School Years Completed at the Superior Level (*Tabla No. 18 población de 18 años y más por municipio, sexo y edad según nivel de instrucción y grados aprobados en el nivel superior*).

The calculations were done according to the following formula:

$$NI^{15-19} = \frac{Pop^{15-19}SI \times 100}{Pop^{15-19}T - Pop^{15-19}NE}$$

Where:

$Pop^{15-19}SI$ = population between 15 and 19 years without primary instruction.

$Pop^{15-19}T$ = Total population between 15 and 19 years.

$Pop^{15+}NE$ = population between 15 and 19 years that did not specify educational level.

Note: The previous formula refers to the index of no primary education. Remember that the age groups considered are: Primary Level, population between 15 and 19 years old; Middle Basic Level, population between 16 and 19 years; Middle Superior Level, population between 20 and 24 years; and Superior Level, population between 25 and 29 years.

10.- Index of Completion of Studies: refers to the proportion of people who finish a certain level of instruction compared to those who began. This is calculated by dividing the number of people who finish the educational level by the total number of people who began that level, for each of the educational levels. The same characteristics are applied as in the previous index as far as the age groups considered and the sources of information.

The calculations were done according to the following formula:

$$TE^{15-19} = \frac{Pop^{15-19}TE}{Pop^{15-19}I} \times 100$$

Where:

$Pop^{15-19}TE$ = population between 15 and 19 years, who finished primary school.

$Pop^{15-19}I$ = population between 15 and 19 years, who began primary school

Note: The previous formula refers to the index of completion of studies for primary school.

11.- Index of Continued Study: refers to the proportion of people who continue their studies to the next level in relation to those who only finished the previous level. It is calculated by dividing the number of people who go on to study at the next level by the number of people who stopped at that level, for each one of the educational levels. The same characteristics are applied as in the previous index as far as the age groups and sources of information.

The calculations are done according to the formula:

$$CoE^{15-19} = \frac{Pop^{15-19}ES}{Pop^{15-19}TE} \times 100$$

Where:

$Pop^{15-19}ES$ = population between 15 and 19 years of age, who attend a higher level of school than primary.

$Pop^{15-19}TE$ = population between 15 and 19 years of age, who finished primary school.

Note: The previous formula refers to the index of completion of studies for the primary level.

Note: The previous formula refers to the index of no primary education. Remember that the age groups considered are: Primary Level, population between 15 and 19 years old; Middle Basic Level, population between 16 and 19 years; Middle Superior Level, population between 20 and 24 years; and Superior Level, population between 25 and 29 years.

10.- *Index of Completion of Studies*: refers to the proportion of people who finish a certain level of instruction compared to those who began. This is calculated by dividing the number of people who finish the educational level by the total number of people who began that level, for each of the educational levels. The same characteristics are applied as in the previous index as far as the age groups considered and the sources of information.

The calculations were done according to the following formula:

$$TE^{15-19} = \frac{Pop^{15-19}TE}{Pop^{15-19}I} \times 100$$

Where:

$Pop^{15-19}TE$ = population between 15 and 19 years, who finished primary school.

$Pop^{15-19}I$ = population between 15 and 19 years, who began primary school

Note: The previous formula refers to the index of completion of studies for primary school.

11.- *Index of Continued Study*: refers to the proportion of people who continue their studies to the next level in relation to those who only finished the previous level. It is calculated by dividing the number of people who go on to study at the next level by the number of people who stopped at that level, for each one of the educational levels. The same characteristics are applied as in the previous index as far as the age groups and sources of information.

The calculations are done according to the formula:

$$CoE^{15-19} = \frac{Pop^{15-19}ES}{Pop^{15-19}TE} \times 100$$

Where:

$Pop^{15-19}ES$ = population between 15 and 19 years of age, who attend a higher level of school than primary.

$Pop^{15-19}TE$ = population between 15 and 19 years of age, who finished primary school.

Note: The previous formula refers to the index of completion of studies for the primary level.

APPENDIX C

Description of the Potable Water System Districts

Appendix C

Description of the Potable Water System Districts

District 1 Ingeniero Juan Ojeda

The Ingeniero Juan Ojeda district serves the northern part of the city of Tijuana. The United States (U.S.) border makes up its northern boundary and the Alamar Arroyo and the Tijuana River make up the southeast and southwest boundaries respectively. The Juan Ojeda district has a total surface area of approximately 12,246 acres (4,956 hectares), of which 8,006 acres (3,240 hectares), or 65 percent of the land area, are already developed; the rest is vacant. The potable water service in this district reaches 97 percent of the urbanized area, which includes the Abelardo L. Rodriguez airport and the industrial areas of Otay. Approximately 1,369 acres (554 hectares) of the 5,197 acres (2,103 industrial hectares) within the study area fall within this district. The Juan Ojeda district provides service to XX residential, YY commercial, ZZ industrial, and JJ governmental connections.

District 2 Paraíso

The Paraíso district provides service to the downtown area. It is bounded on the north by the Tijuana River and the Ingeniero Juan Ojeda district; to the east by the Ojeda district and the Reforma district; to the south by the Reforma and Independencia districts; and to the west by the Independencia district. The majority (88 percent) of the service area of this district is already developed; only 988 acres (400 hectares) of the 8,575 acres (3,470 hectares) have not been developed. The potable water service in this district covers 100 percent of the urbanized area. Most of the service area in this district is residential, although it also includes important commercial areas, like the Zona Río. Industrial development is very limited; only 4 percent of the total industrialized land in the study area is located in this district.

District 3 Independencia

The Independencia district encompasses the northeastern part of the study area. The northern boundary of this district is the U.S. border; to the east it shares a border with the Paraíso and Reforma districts; to the south with the Rosarito District and to the west with the Pacific Ocean. Approximately half of the 16,521 acres (6,686 hectares) in this district have been urbanized, mainly with residential construction. There are few commercial areas located within Independencia, while the industrial areas make up approximately 7 percent of the industrial area of the total study area. The potable water service in this district reaches 100 percent of the urbanized area.

District 4 Ingeniero Armando Valenzuela

The service area of the Armando Valenzuela district is concentrated in the western part of the city of Tijuana and is bordered on the north with the Alamar Arroyo and the Ingeniero Juan Ojeda district; on the west by the new La Morita district; to the

south by the La Morita and Reforma districts; and to the west by the districts of Reforma and Juan Ojeda. The size of the service area of this district is 10,934 acres (4,425 hectares), of which only 6,726 acres (2,722 hectares) have been urbanized and the rest is vacant land. Most of the developed area is residential, with commercial areas spread throughout, especially along the major thoroughfares. Industrial development in the district is limited and makes up 15 percent 803 acres (325 hectares) of the industrial land in the study area. The potable water service in this district reaches 100 percent of the urbanized area.

District 5 Reforma

This district is located in the southern area of Tijuana and shares a border to the north with the districts of Paraíso, Ingeniero Juan Ojeda and Ingeniero Armando Valenzuela; to the east with the La Morita and Río Tijuana districts; to the south with the Rosarito district and the axis of the Tijuana Corridor 2000, proposed by IMPLAN (the Municipal Planning Institute of Tijuana); and to the west with the Independencia and Paraíso districts. This is one of the largest districts in the city of Tijuana, with an estimated total surface area of 20,883 acres (8,451 hectares), of which approximately 41 percent 8,567 acres (3,467 hectares) have been urbanized. Development in this district is primarily residential and commercial; the industrial areas, located in the southern part of the district, make up approximately 18 percent 944 acres (382 hectares) of the total industrial surface area of the study zone. The potable water service in this district reaches 94 percent of the urbanized area.

District 6 Rosarito

The Rosarito district serves the area located along the Pacific coast, stretching from southern Tijuana to Playas de Rosarito. This district is bordered to the north by the Independencia and Reforma districts; to the east and south by the city limits of Rosarito; and to the west by the Pacific Ocean. The surface area of the service area of the Rosarito district is estimated to be 46,268 acres (18,724 hectares), of which less than 10 percent 4,114 acres (1,665 hectares) are urbanized. Most of the development is residential and commercial. Most of the industrial areas in this district are located in the northern part and make up approximately 20 percent 1,035 acres (419 hectares) of the industrial area of the study area. The potable water service in this district reaches 15 percent of the urbanized area.

District 7 La Morita

This last district, serving the eastern area of the city of Tijuana, is one of the areas where greatest growth is anticipated for the city. The borders of the La Morita district on the north and east are not clearly defined, since it will continue to grow as the urban area of the city expands to the east. The Arroyo Seco marks the southern limit of this district, while the Reforma and Ingeniero Armando Valenzuela districts border it to the west. Most of its surface area, estimated to be 32,326 acres (13,082 hectares⁰), is uninhabited and the developed land is primarily residential. There are very few commercial areas and the industrial zones make up approximately 10 percent of the industrial area in the study area. The potable water service reaches 52 percent of the urbanized area.

APPENDIX D

List of Standpipes in Operation

Appendix D

List of Standpipes in Operation

Particular standpipes:

- CROM distributors union: includes own well and 60 trucks at 5.2 yd³ (4 m³) each per day.
- Infonavit employees: includes own well, with a 131 yd³/day (100 m³/day) extraction capacity.
- General Hospital: located in well X-D.
- Los Álamos: located in Calzada Lázaro Cárdenas.
- Villa Fontana: 200 pipes at 5.2 yd³ (4 m³), can be extracted daily, located in calle del Trabajo No. 12140, Col. Valle Verde (three standpipes).
- Rampa Morelos: located in the Morelos plant, offers service to the Firefighters and has a capacity of approximately 50 pipes at 5.2 yd³ (4 m³), per day.

Standpipes controlled by CESPT:

- Ing. Juan Ojeda Robles: supplied by the Lázaro Cárdenas Aqueduct or from the line that falls from the Murua Tank.
- La Morita: Colonia La Morita.
- Ejido Matamoros: Granjas Familiares del Ejido Matamoros.
- Las Torres: Colonia las Torres.
- Cañón del Sainz: Infonavit Villas de Baja California.
- 3 de Octubre: Colonia 3 de Octubre.
- El Tecolote: Fraccionamiento El Tecolote.
- Cañada Verde: Colonia Camino Verde.
- El Planetario: Colonia El Planetario.
- Residencial Agua Caliente: Fraccionamiento Residencial Agua Caliente.
- Valle del Rubí: Fraccionamiento Rubí, junto a vivienda popular.
- Lázaro Cárdenas: Colonia Lázaro Cárdenas.
- Maquío: Colonia Pedregal de Santa Julia.

- Reforma: Rosarito.
- Constitución: Rosarito.
- Km³5+000 Popotla: Process to discontinue by debt (Aqueduct Misión-Tijuana).
- Km 57+2500: Venustiano Carranza Aqueduct Misión-Tijuana (Out of operation).
- The above-mentioned information was obtained from: *Plan de Contingencias para las Tormentas Derivadas del Fenómeno del Niño en el Invierno 1997-1998, CESPT.*

APPENDIX E

Structures connected to the Telemetry System

Appendix E

Structures connected to the Telemetry System

Tanks:

Herrera, Miramar, 4 ½, Rubí Sarh, Obrera, Las Cruces, Aguaje de la Tuna, Panamericano, La Gloria, Sánchez Taboada, San Luis, Reforma, 10 Rubí, Cerro Colorado, El Pípila, Ejido Mazatlán, Playas 1, Playas 2, Cárdenas 2, Obrera 3, Juárez, Cima, Fundadores 1 y 2, Tanque 6, Chapultepec, Británica, Colinas, Lomas, Res. Agua Caliente, Camino Verde, El Florido, Azteca 1, Azteca 2, Azteca 3, Lomas Del Colorado, Capistrano, Presidentes, Murua, Ojeda, Lago, Guaycura, Ejido Matamoros, 3-B, Airport.

Pump stations:

San Luis, Reforma, Constitución, Pozos la Misión.

Water treatment plants:

Abelardo L. Rodríguez, El Florido, La Misión.

Monitoring Headquarters:

Morelos Plant, El Florido Plant.

Wells:

17, 14, 70, 13, Corette, 44, X-D, XA-4, 73, 36, 32, 29, 26, 56, Río, la Misión.
Rompedora el Vigía (Aqueduct La Misión-Rosarito).